## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| Application of:   |                           | f: Tarin, Stephen A.   | Confirmation No.:   | 7914                                |  |
|---|---------------------------|--|---|-------------------------------------|--|
| Serial No.:   |                           | 10/629,810   | Art Unit:   | 2168                                |  |
| File  | ed:                       | July 28, 2003  | Examiner:   | Dwivedi, Mahesh H.                  |  |
| For   | :                         | VALUE-INSTANCE-<br>CONNECTIVITY COMPUTER-<br>IMPLEMENTED DATABASE<br>RESUBMISSION OF PREVIOUSLY  |   | 8676-042<br>(909537-999037)<br>(ALS |  |
| P.O.  | Box 1450                  | for Patents<br>A 22313-1450  |   |                                     |  |
| Sir:  |                           |  |   |                                     |  |
| subje   | ided certai<br>ct U.S. pa | ordance with the duty of disclosure proven information which the Examiner may tent application. It is requested that the crial to the examination of the application | consider material to the exa<br>Examiner make this inform | mination of the                     |  |
| 1.  | Enclos                    | ures accompanying this Information Dis   | sclosure Statement are:                                   |                                     |  |
|   | 1 <b>a</b> .              | A list of all patents, publications, a consideration by the office.  | applications, or other inform                             | nation submitted for                |  |
|   | 1b.                       | A legible copy of:   |   |                                     |  |
|   |                           |  | hich caused it to be listed or                            | n the PTO-1449;                     |  |
| For each cited pending unpublished U.S. application, the application spe including the claims, and any drawing of the application, or portion of the application which caused it to be listed on the PTO-1449 including any c directed to that portion that have been checked to be unavailable at the U private PAIR system; |                           |  |   |                                     |  |
|   |                           | An English language copy of search application or PCT International S  |   | art foreign                         |  |
|   |                           | Explanations of relevancy (ATTA) abstracts of the non-English langua   | · · · · · · · · · · · · · · · · · · ·                     | English language                    |  |
|   |                           | All other information or portion w   | hich caused it to be listed or                            | the PTO-1449.                       |  |
|   | le.                       | Pursuant to 37 C.F.R. § 1.98(a)(2) patent application publications are office.   |   |                                     |  |
|   | 1 <b>d</b> .              | Pursuant to 1287 OG 163, copies of are available at the USPTO's priva  |   |                                     |  |
| 2.  |                           | This Information Disclosure Statement  | is filed under 37 C.F.R. §1.                              | 97(b):                              |  |

|    |          | Within three months of the filing date of a national application other than a continued prosecution application under §1.53(d);  |
|----|----------|--|
|    |          | Within three months of the date of entry of the national stage as set forth in §1.491 in an international application;   |
|    |          | ☐ Before the mailing of the first Office action on the merits.   |
| 3. | under 3  | This Information Disclosure Statement is filed under 37 C.F.R. §1.97(c) after the specified in 37 C.F.R. §1.97(b), but before the mailing date of any of a final action 17 C.F.R. §1.113, a notice of allowance under 37 C.F.R. §1.311 or an action that ise closes prosecution in the application.  |
|    |          | (Check either Item 3a or 3b)   |
|    | 3a.      | ☐ The Certification Statement in Item 5 below is applicable. Accordingly, no fee is required.  |
|    | 3b.      | The \$180.00 fee set forth in 37 C.F.R. §1.17(p) in accordance with 37 C.F.R. §1.97(c) is:   |
|    |          | <ul> <li>enclosed.</li> <li>to be charged to Jones Day Deposit Account No. 50-3013.</li> </ul>   |
|    |          | (Item 3b to be checked if any reference known for more than 3 months)  |
| 4. | period : | This Information Disclosure Statement is filed under 37 C.F.R. §1.97(d) after the specified in 37 C.F.R. §1.97(c), but on or before the date of payment of the issue fee.  |
|    | The Ce   | rtification Statement in Item 5 below is applicable.   |
|    |          | The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:  enclosed.  |
|    | _        | to be charged to Jones Day Deposit Account No. 50-3013.  |
| 5. |          | Certification Statement (applicable if Item 3a or Item 4 is checked):  |
|    |          | (Check either Item 5a or 5b)   |
|    | 5a.      | In accordance with 37 C.F.R. §1.97(e)(1), it is certified that each item of information contained in this Information Disclosure Statement was first cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.   |
|    | 5b.      | Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not <b>received</b> by any individual designated in 37 C.F.R. §1.56(c) more than thirty days prior to the filing of this information disclosure statement.                           |
|    | 5c.      | Pursuant to 37 C.F.R. §1.704(d), each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart application, and the communication was not received by any individual designated in 37 C.F.R. §1.56(c) more than thirty days prior to the filing of this information disclosure statement. |
| 6. |          | This application is a continuation application under 37 C.F.R. §1.53(b) or (d).  |
|    |          |  |

## (Check appropriate Items 6a and/or 6b)

|       | 6a.  | A Petition to Withdraw from issue under 37 C.F.R. §1.313(b)(5) is concurrently filed herewith.  |  |  |  |  |
|-------|--|---|--|--|--|--|
|       | 6b.  | Copies of publications listed on Form PTO-1449 from prior application Serial No. , filed on , of which this application claims priority under 35 U.S.C. §120, are not being submitted pursuant to 37 C.F.R. §1.98(d).   |  |  |  |  |
| 7.    | $\boxtimes$  | Resubmission of Previously Submitted Materials. (Check Item 7a)   |  |  |  |  |
|       | 7a.  | The materials enclosed herewith were previously submitted in U.S. patent application No. 09/112,078, filed on July 8, 1998, now U.S. patent No. 6,009,432, of which this application claims priority under 35 U.S.C. §120. These materials were brought to the Examiner's attention in the current application by way of an Information Disclosure Statement filed on August 2, 2006 under 37 C.F.R §1.98(d). The USPTO seems to have misplaced the materials, through no fault of applicant, and they have not been considered by the Examiner in the current application. Therefore, applicant has enclosed a physical copy of the missing materials, and respectfully requests that they be considered by the Examiner. No fees are required for this submission, since the materials were previously cited in the current application in an Information Disclosure Statement filed under 37 C.F.R §1.98(d). |  |  |  |  |
| 8.    | In accordance with 37 C.F.R. §1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is: |   |  |  |  |  |
|       |  | (Check Item 8a, 8b, or 8c)  |  |  |  |  |
|       | 8a.  | Satisfied because all non-English language publications were cited on the enclosed English language copy of the PCT International Search Report or the search report from a counterpart foreign application indicating the degree of relevance found by the foreign office.   |  |  |  |  |
|       | 8b.  | Set forth in the application.   |  |  |  |  |
|       | 8c.  | ☐ Enclosed as an attachment hereto.   |  |  |  |  |
| 9.    |  | the Commissioner is authorized to charge any additional fee required or credit any cent for this Information Disclosure Statement and/or Petition to Jones Day Deposit to. 50-3013.   |  |  |  |  |
| 10.   | (other   | No admission is made that the information cited in this Statement is, or is considered naterial to patentability and no representation is made that a search has been made than a search report of a foreign counterpart application or PCT International Search if submitted herewith). 37 C.F.R. §§1.97(g) and (h).   |  |  |  |  |
| Date: | Febru  | Respectfully submitted,  38,051  Ognjan V. Shentov  JONES DAY  222 East 41st Street  New York, New York 10017   |  |  |  |  |
|       |  | (212) 326-3939  |  |  |  |  |

| Substitute for Form 1449/PTO |   |  |                    |                   | ATTY DOCKET NO.<br>8676-042<br>(909537-999037) |  | APPLICATION NO.                         |                       |              |  |
|------------------------------|---|--|--------------------|-------------------|--|--|---|-----------------------|--------------|--|
|                              |   |  |                    |                   | APPLICANT:                                     | <del>/</del>   | 10,020,01                               |                       |              |  |
| INFORMAT                     | ION DI  | SCLOSURE STATEMENT<br>(Use several sheets if n   |                    | T                 | Tarin, Stephen A                               | <b>.</b> .   |   |                       |              |  |
|                              |   |  | •                  |                   | FILING DATE:                                   |  | ART UNIT:                               | CONE                  | NO:          |  |
|                              |   |  |                    |                   |  | July 28, 2003 2168   |   | r: conf. no.:<br>7914 |              |  |
|                              |   |  | U.S. PAT           | TENT DOCUM        |  |  | 2108                                    |                       | 714          |  |
| EXAMINER'S                   | 1   |  |                    |                   | e or Applicant of Cited Pages, Columns, Lines, |  | Where Relevant                          |                       |              |  |
| INITIALS*                    | A01   | DOCUMENT NUMBER  | MM/DD/YYYY         | <u>Do</u>         | cument   | Passages or Relevant Fig   |   | igures Ap             | gures Appear |  |
|                              |   |  | FORFICN            | PATENT DOC        | IIMIFNTS                                       |  |   |                       |              |  |
|                              |   |  | TOREIGN            | AIEM DOC          | UNIENTS  |  |   |                       |              |  |
| EXAMINER'S<br>INITIALS*      |   | Country Code, Number, Kind<br>of Code (if known)   | DATE<br>MM/DD/YYYY |                   | or Applicant of Cited                          | Pages, Columns, Lines,<br>Where Relevant Passages<br>or Relevant Figures |   |                       |              |  |
| ENTIALS                      |   | or code (ir known)   | WHEN DON'T EX      | 50                | cument   |  | Appear                                  | YES                   | LATION<br>NO |  |
|                              | B01   |  |                    |                   |  | T  |   | 1.55                  | 1            |  |
| EXAMINER'S<br>INITIALS*      |   | f the item (book ,magazine,  |                    |                   |  | 4.4.4  | -                                       |                       |              |  |
| INITIALS                     | C01   | Fiat et al., 1991, "An Implicit Data Structure for Searching a Multikey Table in Logarithmic Time," Journal of Computer and System Sciences vol. 43, 406-424                     |                    |                   |  |  |   |                       |              |  |
|                              | C02   | Fiat et al., 1988, "Storing and Searching a Multikey Table," ACM, pp. 344-353  |                    |                   |  |  |   |                       |              |  |
|                              | C03   | Knuth D. F. 1998 "The Art of Computer Programming" 2d Ed. vol. 3, 5, 584, Addison-Waslay Publishing  |                    |                   |  |  |   |                       |              |  |
|                              | C04   | Lehman et al., August, 1986, "A Study of Index Structures for Main Memory Database Management Systems," Proc. 12th Int'l Conf., Very Large Data Bases, Kyoto, Japan, pp. 294-303 |                    |                   |  |  |   |                       |              |  |
|                              | C05 Lehman et al., 1986, "Query Processing in Main Memory Database Management Systems," ACM, pp. 239-250              |  |                    |                   |  |  | *************************************** |                       |              |  |
|                              | C06 Munro, 1987, "Searching a Two Key Table Under a Single Key," ACM pp. 383-387                                      |  |                    |                   |  |  |   |                       |              |  |
|                              | C07 Nevergelt et al., 1984, "The Grid File: An Adaptable, Symmetric Multikey File Structure," ACM, pp. 108-124        |  |                    |                   |  |  | *************************************** |                       |              |  |
|                              | C08 Yao, July 1981, "Should Tables Be Sorted?," Journal of the Assoc. of Computing Machinery, vol. 28, no. 3, pp. 615 |  |                    |                   |  |  |   | 615-                  |              |  |
|                              | C09   | Rabb "Implementing a Relational Database by Means of Specialized Hardware" ACM Transactions on Database  |                    |                   |  |  |   |                       |              |  |
|                              | C10   | Goldstein et al. "The MacAIMS Data Management System." Record of the 1970 ACM SICEIDET Workshop on Data  |                    |                   |  |  |   |                       |              |  |
|                              | C11   | Goldstein et al, "Database<br>Data Engineering, vol. 9,  | no. 1, Jan-Feb 1   | 997, pp. 186-192  |  |  |   | •                     |              |  |
|                              | C12   | Sharman, "Update-By-Dia<br>Conference on Manageme  | ent of Data, Toro  | onto, Canada, Aug | . 3-5, 1977                                    |  |   |                       | nal          |  |
|                              | C13   | Strad "The Relational Approach to the Management of Data Bases" Information Processing 71, Proc. Of IEID   |                    |                   |  |  |   |                       |              |  |
| _                            | C14   | Titman, "An Experimenta<br>Publishing Company, 197   | l Data Base Sys    | tem Using Binary  | Relations," Database                           | Managen  | ent, North-H                            | olland                |              |  |

| EXAMINER | DATE CONSIDERED |
|----------|-----------------|
|          |                 |

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.